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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/030,952	01/08/2002	Kurt David Malmstrom	743-P-2-USA	2796

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DRUMMOND & DUCKWORTH
5000 Birch Street
Suite 440, East Tower
Newport Beach, CA 92660

EXAMINER

HUNG, YUBIN

ART UNIT PAPER NUMBER

2625

DATE MAILED: 03/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/030,952

Applicant(s)

MALMSTROM, KURT DAVID

Examiner

Yubin Hung

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 8 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08).
Paper No(s)/Mail Date 3/11/02.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: ____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:
 - P. 5, line 8: per line 10 of the same page, "Bi" should have been "Gi"
 - P. 5, lines 8-12: Ri and Gi are not well defined. Are they color component values of a single pixel or a uniform-color area; or the average or other type of derived color component values of an area? The same issue exists with the color values (e.g., Ri1 and Bi1) recited in P. 5, lines 16-24; P. 6, lines 6 & 17-20
 - P. 5, line 8: and P. 6, line 6: "." (period) is not commonly used in the art to indicate a multiplication

Appropriate correction is required.

2. Claims 4 and 5 are objected to because of the following informalities: a period (".") is used to indicate a multiplication, which is not the common practice in the art.

Appropriate correction is required.

3. This application does not contain an abstract of the disclosure as required by 37 CFR 1.72(b). An abstract on a separate sheet is required.

4. A brief description of the drawings is missing. (See below for guidelines on the content of specification.)

Content of Specification

- (g) Brief Description of the Several Views of the Drawing(s): See MPEP § 608.01(f). A reference to and brief description of the drawing(s) as set forth in 37 CFR 1.74.
- (j) Abstract of the Disclosure: See MPEP § 608.01(f). A brief narrative of the disclosure as a whole in a single paragraph of 150 words or less commencing on a separate sheet following the claims. In an international application which has entered the national stage (37 CFR 1.491(b)), the applicant need not submit an abstract commencing on a separate sheet if an abstract was published with the international application under PCT Article 21. The abstract that appears on the cover page of the pamphlet published by the International Bureau (IB) of the World Intellectual Property Organization (WIPO) is the abstract that will be used by the USPTO. See MPEP § 1893.03(e).

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claim 2 is rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. Specifically, the intensity normalization equation for the

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R component, $R_i = (R - k)/(R + G + B - 3k)$, critical or essential to the practice of the invention (see P. 4, lines 7-14 of the specification), but not included in the claim(s) is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976). **(Note: this rejection can be overcome by replacing “÷” with “+” in the claim. For examination purpose, “+” will be assumed.)**

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, claim 4 recites the limitation "Gi" in line 5. There is insufficient antecedent basis for this limitation in the claim. **(Note: for examination purpose Bi will be interpreted as Gi.)**

9. Claims 4 and 5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, as per the discussion in the objection to the specification, the terms R_i , B_i and G_i are not well defined. **(Note: for examination purpose R_i , B_i and G_i will be interpreted as derived (e.g., average) color component values over an area.)**

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 1, 3 and 6-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tong et al. (US 5,944,598) and Newman (US 5,668,634).

12. Regarding claim 1, and similarly claim 6, Tong discloses

- processing the colour data to derive light intensity independent measures of colour values
[Col. 12, line 29-Col. 13, line 13]
- calculating the property of the object utilising a predictive equation in which some measures of the object are variables and the property of the object is calculated from solving the predictive equation
[Col. 5, lines 45-53; Col. 10, lines 10-13; Col. 30, line 63-Col. 32, line 36; Col. 37, line 29-46 (note that the object in this case is rib eye)]

Tong does not expressly disclose that the measures used as independent variables in the predictive equation are the light intensity independent colour measures.

However, Newman teaches using color measures for grading meat. [Fig. 3; Col. 9, lines 24-36.]

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Tong and Newman are combinable because they are from the same field of endeavor of evaluating meat.

At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify Tong with the teachings of Newman by using color measures as independent variables to a predictive equation for calculating object property values. The motivation would have been because color is a good indicator of different part (e.g., fat) of meat, as pointed out by Newman in Col. 9, lines 8-10 & 24-28.

Therefore, it would have been obvious to combine Newman with Tong to obtain the invention of claim 1.

13. Regarding claim 3, Tong further discloses

- the predictive equation is developed from data gathered during a data gathering experiment using measures obtained from these data with the actual measured property of each of the real target objects to derive the predictive equation by statistical analysis techniques to best fit the data and optimize the prediction of the actual measured property from the measures
[Col. 31, line 39-Col. 32, line 39. Note that per the analysis, the measures in question are the intensity-normalized color measures]

14. Regarding claims 7-12, Newman further discloses using "yield" as a carcass quality measure [Abstract, lines 10-11; Fig. 3; Col. 8, Table 1c]. Note that it would have been obvious to one of ordinary in the art to calculate other quality measures (e.g., conformation or fat score) defined in the standards of different countries or regions (e.g., Australia, Europe and the United States) where one intends to export meat product.

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The motivation obviously would be to be able to meet the local requirements and provide local consumers with information they can understand in order to promote sale.

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15. Claims 2, 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tong et al. (US 5,944,598) and Newman (US 5,668,634) as applied to claims 1, 3 and 6-12, and further in view of Chan (US 5,432,712) and Radford (US 5,663,564).

16. Regarding claim 2, the combined invention of Tong and Newman discloses all limitations of its parent, claim 1.

The combined invention of Tong and Newman does not expressly disclose calculating the light intensity independent colors using the following formulas:

- $R_i = (R - k) / (R + G + B - 3k)$
- $G_i = (G - k) / (R + G + B - 3k)$
- $I = (R + G + B - 3k) / 3$

where k is an offset value

However, Chan teaches intensity-normalizing colors with a zero offset [Col. 7, lines 46-56] and Radford in column 1, lines 57-61 teaches normalizing output signals to zero offset (i.e., by subtracting the offset, say, k). (Note: by substituting the R, G and B

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components in the normalizing equations of Chan with the offset-removed color component $(R - k)$, $(G - k)$ and $(B - k)$, the above equations are obtained.)

The combined invention of Tong and Newman are combinable with Chan and Radford because they are from the same field of endeavor of image acquisition.

At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify the combined invention of Tong and Newman with the equations for intensity-normalizing the color components Chan and Radford jointly teach. The motivation would have been because those equations are effective, easy to implement, and well known in the art.

Therefore, it would have been obvious to combine Chan and Radford with Tong and Newman to obtain the invention of claim 2.

17. Regarding claim 4, Tong discloses using a linear predictive function of the form specified in the claim [Col. 31, lines 52-67]; in addition, per the analysis of claim 1, Newman teaches using color measures as independent variables of the equation and per the analysis of claim 2, Chan discloses that only normalized red and green values are needed because the third normalized color component (blue) is determined by the other two. Therefore the use of the equation specified in claim 4 is obvious.

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18. Regarding claim 5, Tong in column 37, lines 29-46 teaches using dimensional measure (e.g., T_{AREA}) as an independent variable in the linear equation for calculating a property value (% saleable yield). Therefore, alone with the analysis of claim 4, the use of the equation specified in claim 5 is obvious.

Contact Information

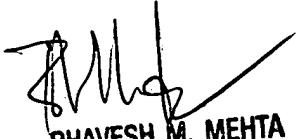
19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yubin Hung whose telephone number is (703) 305-1896. The examiner can normally be reached on 7:30 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on (703) 308-5246. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Yubin Hung
Patent Examiner
March 11, 2005



BHAVESH M. MEHTA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600